

## **APPENDIX A**

>gi|31795107|gb|AC005383.2| EID Homo sapiens chromosome 10 clone CIT987SK-1144G6 map 10q25.1, complete sequence  
Length = 121774

Score = 1405 bits (709), Expect = 0.0  
Identities = 747/753 (99%), Gaps = 5/753 (0%)  
Strand = Plus / Plus

Query: 2614 ggattctttagacgcctgaggcacatggctcccggtcaggagggcagcagccgtaccc 2673  
Sbjct: 78153 ggattctttagacgcctgaggcacatggctcccggtcaggagggcagcagccgtaccc 78212

Query: 2674 ctcccagcaactacagagaaggcgtggcaactgaaatggtcgttacccgtggaaatgtct 2733  
Sbjct: 78213 ctcccagcaactacagagaaggcgtggcaactgaaatggtcgttacccgtggaaatgtct 78272

Query: 2734 gtgccccaggtccttagaatgtctgtctcccggtggcaggaccatatttcactga 2793  
Sbjct: 78273 gtgccccaggtccttagaatgtctgtctcccggtggcaggaccatatttcactga 78332

Query: 2794 gggaggaggatgtcccaactgcagccatgtgttttagagacaagaaggcagtgatgtca 2853  
Sbjct: 78333 gggaggaggatgtcccaactgcagccatgtgttttagagacaagaaggcagtgatgtca 78392

Query: 2854 cccacaaaacgatgttgtgaaaagtggatgtgttaagttaaataccacttctgtacct 2913  
Sbjct: 78393 cccacaaaacgatgttgtgaaaagtggatgtgttaagttaaataccacttctgtacct 78452

Query: 2914 gctgtgccttgcgtggaggctatgtcatctgcaccccttgcgtggataaaacaagggtc 2973  
Sbjct: 78453 gctgtgccttgcgtggaggctatgtcatctgcaccccttgcgtggataaaacaagggtc 78512

Query: 2974 ctgaagacttaatttagcgccgtgacgttcccttcgtcacaatcaatgtcgccagaat 3033  
Sbjct: 78513 ctgaagacttaatttagcgccgtgacgttcccttcgtcacaatcaatgtcgccagaat 78572

Query: 3034 gtttgtgacacagtaatgcccgacgaggcctttactagagcatcccttggacggcgaag 3093  
Sbjct: 78573 gtttgtgacacagtaatgcccgacgaggcctttactagagcatcccttggacggcgaag 78632

Query: 3094 gccacggcccttcaagatggaaaaggcagcagctttttccacttcccgagagacattctggat 3153  
Sbjct: 78633 gccacggcccttcaagatggaaaaggcagcagctttccacttcccgagagacattctggat 78692

Query: 3154 gcatttgcatgtggaaagggggttggaggcacgtttgtgacttcttggcactgcc 3213  
Sbjct: 78693 gcatttgcatgtggaaagggggttggaggcacgtttgtgacttcttggcactgcc 78751

Query: 3214 ttttgtgtgtggaaagagacttggaaagggtctcagactg-aatgtgaccaattaaccagct 3272  
Sbjct: 78752 ttttgtgtgtggaaagagacttggaaagggtctcagactgaaatgtgaccaattaaccagct 78811

Query: 3273 tggttgatgtgggggggggttggaggcacgtttgtgc-atggggccagggtctggaa-ggggccacgt 3330  
Sbjct: 78812 tggttgatgtgggggggggttggaggcacgtttgtgc-atggggccagggtctggaggggccacgt 78870

Query: 3331 aaaaatcggttctgagtcgtgagcagtgccaccc 3363  
Sbjct: 78871 aaaaatcggttctgagtcgtgagcagtgccaccc 78903

Score = 1140 bits (575), Expect = 0.0  
Identities = 575/575 (100%)  
Strand = Plus / Plus

Query: 1324 gccctgaagctgagccttggaatgcagggtcgaccccttccttgcgtggacagctctgcg 1383  
Sbjct: 72874 gccctgaagctgagccttggaatgcagggtcgaccccttccttgcgtggacagctctgcg 72933

Query: 1384 qqcaccaactctqqacqaccttctacqqqqccaaatcttcgtqaqqcqttataccaaaa 1443

Sbjct: 72934 ggaccaactctggacggcttcctgcgggccaaggcttcgtgaagcggttgcgggcc 72993

Query: 1444 gtgctgagcgaggactctcgcccccggatgggtgtggccacatacagcaggagctgctg 1503  
Sbjct: 72994 gtgctgagcgaggactctcgcccccggatgggtgtggccacatacagcaggagctgctg 73053

Query: 1504 gtggcggtgcctgtggggagttaccaggatgtgcctgacccctggctggagccctcgatggc 1563  
Sbjct: 73054 gtggcggtgcctgtggggagttaccaggatgtgcctgacccctggctggagccctcgatggc 73113

Query: 1564 attcccttcctgtggggccaccctgacgggcaagtgccttgcggcaggcggcagagcgt 1623  
Sbjct: 73114 attcccttcctgtggggccaccctgacgggcaagtgccttgcggcaggcggcagagcgt 73173

Query: 1624 ggcttcgggagcggccaccaggacaggccaggaccggccacgttagagtgggttttgc 1683  
Sbjct: 73174 ggcttcgggagcggccaccaggacaggccaggaccggccacgttagagtgggttttgc 73233

Query: 1684 actgagtcacactccgaggatgggtgcgggcccacgcgcgtcacgcaaggcgag 1743  
Sbjct: 73234 actgagtcacactccgaggatgggtgcgggcccacgcgcgtcacgcaaggcgag 73293

Query: 1744 ctgctctgtgggttaggcagtggccgtgcgggcagagctggaggagatcacaggc 1803  
Sbjct: 73294 ctgctctgtgggttaggcagtggccgtgcgggcagagctggaggagatcacaggc 73353

Query: 1804 agccaaagcatgtgatggctactcgatccctcaggatctgttcaaccaaattccctgag 1863  
Sbjct: 73354 agccaaagcatgtgatggctactcgatccctcaggatctgttcaaccaaattccctgag 73413

Query: 1864 ctgcagggaaagctgtcagccggcagccggcagg 1898  
Sbjct: 73414 ctgcagggaaagctgtcagccggcagccggcagg 73448

Score = 1076 bits (543), Expect = 0.0  
Identities = 553/555 (99%), Gaps = 1/555 (0%)  
Strand = Plus / Plus

Query: 1895 cagggtgccggacacaacggccctggacccctcgcttcatgttggacacctctgcctcagtac 1954  
Sbjct: 75871 cagggtgccggacacaacggccctggacccctcgcttcatgttggacacctctgcctcagtac 75930

Query: 1955 gccccgagaatttgcctcagatgcagagcttggatggaaagctgtgcctccaggttgagg 2014  
Sbjct: 75931 gccccgagaatttgcctcagatgcagagcttggatggaaagctgtgcctccaggttgagg 75990

Query: 2015 tgaaccctgacgtgacacaggtcgccctgggtgttatggcagccagggtgcagactgcct 2074  
Sbjct: 75991 tgaaccctgacgtgacacaggtcgccctgggtgttatggcagccagggtgcagactgcct 76050

Query: 2075 tcgggctggacacaaaacccacccggctgcatgtgcggccattagccaggccccct 2134  
Sbjct: 76051 tcgggctggacacaaaacccacccggctgcatgtgcggccattagccaggccccct 76110

Query: 2135 accttaggtgg-tgggtcagccggcaccgcctgtgcacatctatgacaaaagtgtga 2193  
Sbjct: 76111 accttaggtgggtgggtcagccggcaccgcctgtgcacatctatgacaaaagtgtga 76170

Query: 2194 ccgtccagaggggtgcggccctgtgtccccaaagctgtgggtgtcacaggcggga 2253  
Sbjct: 76171 ccgtccagaggggtgcggccctgtgtccccaaagctgtgggtgtcacaggcggga 76230

Query: 2254 gagggcgagaggatgcagccgttccctgcccagaagctgaggaacaatggcatctgtct 2313  
Sbjct: 76231 gagggcgagaggatgcagccgttccctgcccagaagctgaggaacaatggcatctgtct 76290

Query: 2314 tggtcgtggcggtggggccctgtccctaagtgtgggtctgcggaggcttcgggtccccggg 2373

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Sbjct: 76291 tggcgtggcgctgggcctgtccctaagtgagggtctgcggaggcttcaggccccggg 76350  
  
Query: 2374 attcctgtacccacgtggcagcttacgccgacctgcggtaaccaccaggacgtgctcattg 2433  
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Sbjct: 76351 attcctgtacccacgtggcagcttacgccgacctgcggtaaccaccaggacgtgctcattg 76410  
  
Query: 2434 agtggctgtgtggag 2448  
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Sbjct: 76411 agtggctgtgtggag 76425

Score = 626 bits (316), Expect = e-176  
Identities = 316/316 (100%)  
Strand = Plus / Plus

Query: 2 acagtgttcgcggctgcaccgcgtcgaggctgggtgacccgcgtagaagtgaagtacttt 61  
||||||||||||||||||||||||||||||||||||||||  
Sbjct: 26189 acagtgttcgcggctgcaccgcgtcgaggctgggtgacccgcgtagaagtgaagtacttt 26248

Query: 62 ttatattgcagacctggccatggcgtttaaaaaacgcgagggcttatgcaccc 121  
||||||||||||||||||||||||||||||||||||||||  
Sbjct: 26249 ttatattgcagacctggccatggcgtttaaaaaacgcgagggcttatgcaccc 26308

Query: 122 ctggcggttagttcccccacctcagccgggtcggttcgtgcgcgcctctccaggagaga 181  
||||||||||||||||||||||||||||||||||||||||  
Sbjct: 26309 ctggcggttagttcccccacctcagccgggtcggttcgtgcgcgcctctccaggagaga 26368

Query: 182 caaacagggttcccacgtggcagccgcgccccggcgccccctctgtatccgtacgc 241  
||||||||||||||||||||||||||||||||||||  
Sbjct: 26369 caaacagggttcccacgtggcagccgcgccccggcgccccctctgtatccgtacgc 26428

Query: 242 cccctggcccgagccgcgccccgggtctgtgagtagagccgcggcaccgagcgttgt 301  
||||||||||||||||||||||||||||||||||||  
Sbjct: 26429 cccctggcccgagccgcgccccgggtctgtgagtagagccgcggcaccgagcgttgt 26488

Query: 302 cgccgctctcc 317  
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Sbjct: 26489 cgccgctctcc 26504

Score = 391 bits (197), Expect = e-105  
Identities = 197/197 (100%)  
Strand = Plus / Plus

Query: 699 aggaggcgacggagacggaaactgtctgtgaaataccctctgcacagagggtgcctgg 758  
||||||||||||||||||||||||||||||||||||  
Sbjct: 59676 aggaggcgacggagacggaaactgtctgtgaaataccctctgcacagagggtgcctgg 59735

Query: 759 aggcaaaaatgtttctgtgccccagatcctcatcatcgtcactgtatggaaagtcccgagg 818  
||||||||||||||||||||||||||||||||  
Sbjct: 59736 aggcaaaaatgtttctgtgccccagatcctcatcatcgtcactgtatggaaagtcccgagg 59795

Query: 819 ggatgtggactgccatccaaggcagctgaaggaaagggtgtcactgtgttgctgtggg 878  
||||||||||||||||||||||||||||  
Sbjct: 59796 ggatgtggactgccatccaaggcagctgaaggaaagggtgtcactgtgttgctgtggg 59855

Query: 879 ggtcagggttcccagg 895  
|||||||||||||||  
Sbjct: 59856 ggtcagggttcccagg 59872

Score = 335 bits (169), Expect = 4e-88  
Identities = 169/169 (100%)  
Strand = Plus / Plus

Query: 2447 agaagccaaggcaggccactgcaaccctctgcaaaccaggcccgtgcataatggggcagctg 2506  
Sbjct: 77174 agaagccaaggcaggccactgcaaccctctgcaaaccaggcccgtgcataatggggcagctg 77233

Query: 2507 cgtcctgcagaatggagctaccgctgcaggatggctggatggggccccactg 2566  
Sbjct: 77234 cgtcctgcagaatggagctaccgctgcaggatggctggatggggccccactg 77293

Query: 2567 cgagaaccgtgagtgaggctttgttatgtgtgagccaggatgg 2615  
Sbjct: 77294 cgagaaccgtgagtgaggctttgttatgtgtgagccaggatgg 77342

Score = 272 bits (137), Expect = 5e-69  
Identities = 137/137 (100%)  
Strand = Plus / Plus

Query: 891 caggtggaggagctgcactggccagcgaggcttagaggcagcacgtgctgtggc 950  
Sbjct: 64847 caggtggaggagctgcactggccagcgaggcttagaggcagcacgtgctgtggc 64906

Query: 951 tgacgggtggaggatgccaccaacggcccttccagcacccctcagcagctggccatctg 1010  
Sbjct: 64907 tgacgggtggaggatgccaccaacggcccttccagcacccctcagcagctggccatctg 64966

Query: 1011 ctccagcgcaccccg 1027  
Sbjct: 64967 ctccagcgcaccccg 64983

Score = 270 bits (136), Expect = 2e-68  
Identities = 136/136 (100%)  
Strand = Plus / Plus

Query: 1025 cagactgcagggtcgaggctcaccctgtgagcacaggacgctggagatggccggagt 1084  
Sbjct: 65652 cagactgcagggtcgaggctcaccctgtgagcacaggacgctggagatggccggagt 65711

Query: 1085 tcgctggcaatccccatgtggagaggatcgccggacccttgcgggtctggctgcac 1144  
Sbjct: 65712 tcgctggcaatccccatgtggagaggatcgccggacccttgcgggtctggctgcac 65771

Query: 1145 actgtcccttctacag 1160  
Sbjct: 65772 actgtcccttctacag 65787

Score = 270 bits (136), Expect = 2e-68  
Identities = 136/136 (100%)  
Strand = Plus / Plus

Query: 455 tgaatgtggctcggtgcaggatcatgtttctgttagatgggtctaacagcgtcg 514  
Sbjct: 41851 tgaatgtggctcggtgcaggatcatgtttctgttagatgggtctaacagcgtcg 41910

Query: 515 ggaaaggagcttggaaaggccaagcacttgcacatcacagtctgtgacggctggaca 574  
Sbjct: 41911 ggaaaggagcttggaaaggccaagcacttgcacatcacagtctgtgacggctggaca 41970

Query: 575 tcagccccgagaggg 590  
Sbjct: 41971 tcagccccgagaggg 41986

Score = 220 bits (111), Expect = 2e-53  
Identities = 111/111 (100%)  
Strand = Plus / Plus

Query: 588 ggtcagagtgggagcatccagttcactccatctggaaattcccttggattc 647  
||||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 48121 ggtcagagtgggagcatccagttcactccatctggaaattcccttggattc 48180

Query: 648 atttcaacccaacaggaagtgaaggcaagaatcaagaggatggtttcaa 698  
||||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 48181 atttcaacccaacaggaagtgaaggcaagaatcaagaggatggtttcaa 48231

Score = 218 bits (110), Expect = 7e-53  
Identities = 110/110 (100%)  
Strand = Plus / Plus

Query: 1215 agggccctgtgactcgagccctgccagaatggaggcacatgtgttcagaaggactgga 1274  
||||||| ||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 71797 agggccctgtgactcgagccctgccagaatggaggcacatgtgttcagaaggactgga 71856

Query: 1275 cggctaccagtgcctctgcccgtggccttggagggggaggctaactgtg 1324  
||||||| ||||| ||||| ||||| ||||| |||||  
Sbjct: 71857 cggctaccagtgcctctgcccgtggccttggagggggaggctaactgtg 71906

Score = 153 bits (77), Expect = 3e-33  
Identities = 77/77 (100%)  
Strand = Plus / Plus

Query: 378 agtgccccatctcccttcaggaaagtccatgtaaaggaaaccatcgaaagat 437  
||||||| ||||| ||||| ||||| |||||  
Sbjct: 40585 agtgccccatctcccttcaggaaagtccatgtaaaggaaaccatcgaaagat 40644

Query: 438 ttcaagtcgcagaaaa 454  
||||||| |||||  
Sbjct: 40645 ttcaagtcgcagaaaa 40661

Score = 117 bits (59), Expect = 2e-22  
Identities = 59/59 (100%)  
Strand = Plus / Plus

Query: 1159 agctggaagagagtgttcttaaccaccctgccacctgtacaggaccacctgcccagg 1217  
||||||| ||||| ||||| ||||| |||||  
Sbjct: 69450 agctggaagagagtgttcttaaccaccctgccacctgtacaggaccacctgcccagg 69508

Score = 117 bits (59), Expect = 2e-22  
Identities = 62/63 (98%)  
Strand = Plus / Plus

Query: 317 gttatatcaacatgcccccttccgttgctggaggccgtctgttttctgttttcca 376  
||||||| ||||| ||||| ||||| |||||  
Sbjct: 35639 gttatatcaacatgcccccttccgttgctggaaagccgtctgttttctgttttcca 35698

Query: 377 gag 379  
|||  
Sbjct: 35699 gag 35701